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NPIC/R-704/64
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PHOTOGRAPHIC INTERPRETATION REPORT

NORTHWEST PROBABLE ANTIMISSILE-MISSILE LAUNCH COMPLEX LENINGRAD, USSR MAY AND JUNE 1964

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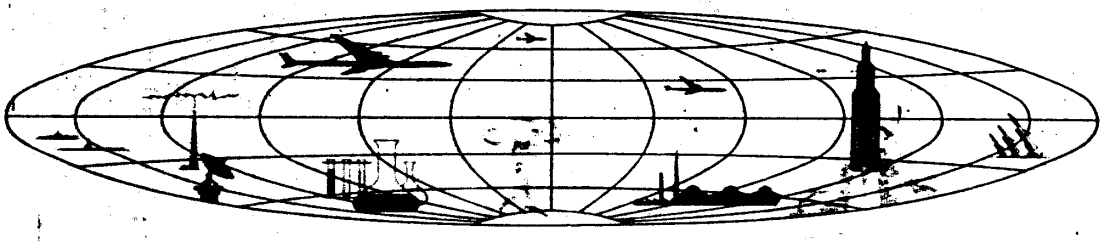
NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER



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The Leningrad Northwest Probable Anti-missile-Missile (AMM) Launch Complex (BE No [redacted], located at 60-27-00N 29-44-10E (Figure 1) 37 nautical miles (nm) northwest of Leningrad, was observed on very good quality, stereo KH-7 KEYHOLE photography of [redacted] May 1964 (Figure 2) and good quality stereo KH-4 KEYHOLE photography of [redacted] June 1964.

This report has been prepared in response to CIA requirements ORR C-RR4-81,455, and C-RR4-81,570, requesting information based upon analysis of the May and June photography.

The majority of measurements contained in this report were derived from the larger scale KH-7 photography and are the best obtainable within the current limits of the KH-7 system and exploitation techniques. There being no means in the system for determining camera attitude, precise attitude is unknown and planned attitude is assumed. A full analysis of the metric characteristics of strip camera photography has not been completed. Wherever possible measurements have been cross-checked with collateral information.

The system of launch site and launch position designators inaugurated in a recent NPIC report 1/ is utilized herein. An explanatory diagrammatic sketch (Figure 3) is included for convenience of the user.

The chronological development of the Northwest Complex as revealed by earlier small-scale KEYHOLE photography was described in previous NPIC reports. 3/, 4/ KEYHOLE photographic coverage of the complex ranges from June 1961, when construction activity was first observed at this location, through September 1963, the most recent coverage prior to May 1964.

The relatively larger scale May 1964 photography reveals many features not discernible on the earlier coverage and permits closer examination of all facilities at the complex. It will also provide a more suitable basis for comparative analysis when future large-scale KEYHOLE photography is available. Significant new information revealed by the May 1964 photography of the Northwest Complex includes: a new separately secured facility under construction; varying stages of completion of components within the Launch and Electronic Areas; an earth-removal operation underway adjacent to the Probable Complex Control Center; probable surfacing of the Probable Complex Control Center roof; vehicular activity throughout the Complex; unidentified objects in open storage adjacent to the largest building in the Support Area; and removal of additional buildings from the Construction Support Area.

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The smaller scale KEYHOLE photography of June 1964, one month later, revealed new activity in a clearing between the Launch and Electronic Areas; construction progress at the new unidentified facility at the southeast corner of the complex; additional earth removed from the area adjacent to the west side of the Probable Complex Control Center; a change in the appearance of the Probable Complex Control Center roof; removal of many of the unidentified objects in open storage in the Support Area.

The new unidentified facility, under construction (Figure 4), is situated on gently rolling terrain 1,700 feet southeast of Launch Site C, and is enclosed by a new security fence attached to that of the complex proper at its southeast corner. There was no evidence of activity at this location in September 1963.

This facility, as first observed on the May 1964 photography, is served by a new road leading from the Launch Area access road at a point between Launch Sites B and C, and by a probably improved existing road extending from

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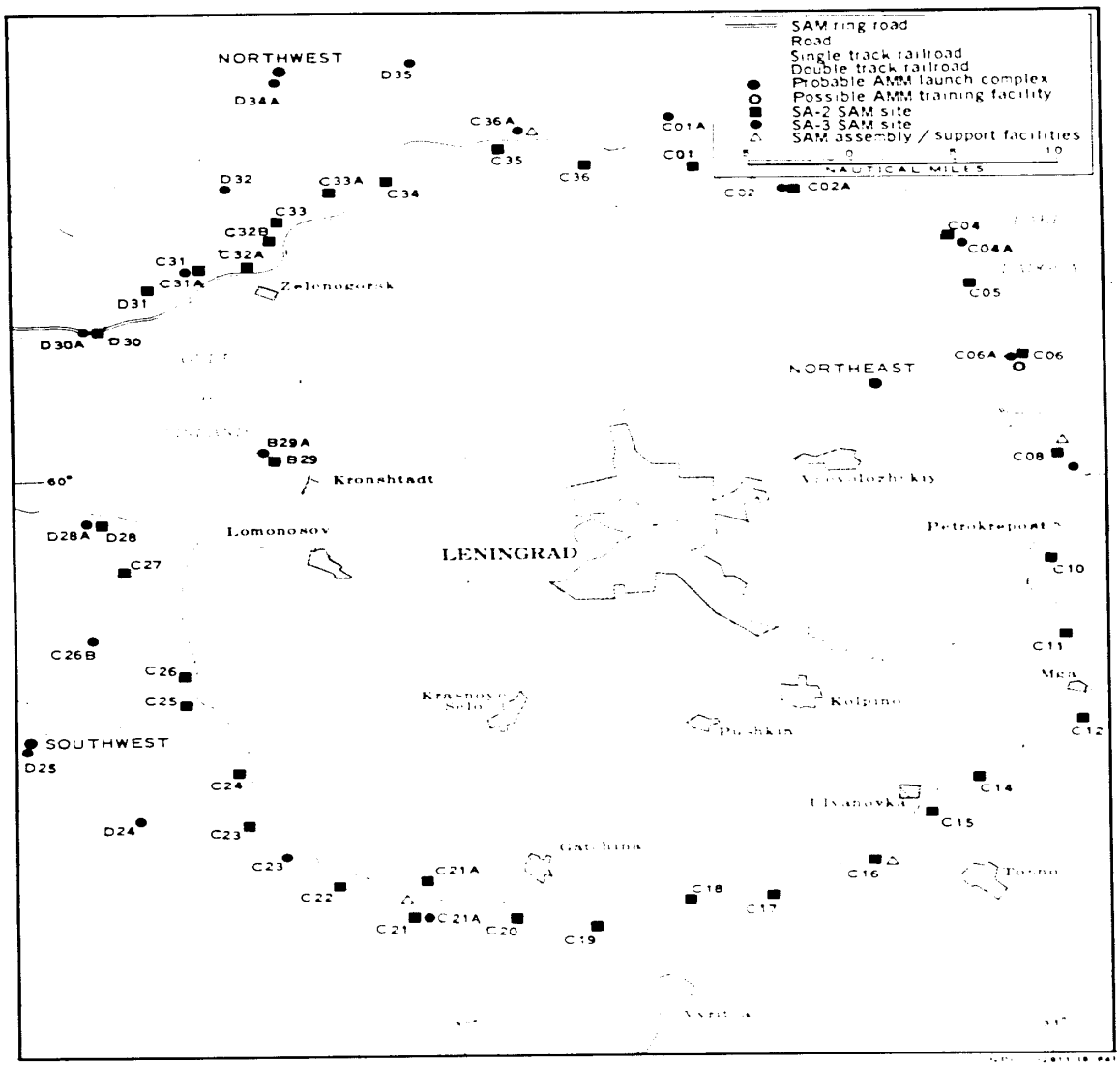

FIGURE 1. PROBABLE AMM LAUNCH COMPLEXES AND SAM INSTALLATIONS NEAR LENINGRAD, USSR.

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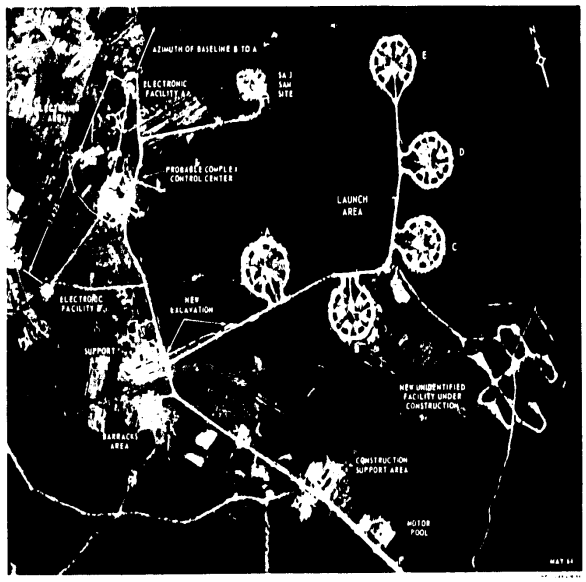

FIGURE 2 LENINGRAD NORTHWEST PROBABLE ABM LAUNCH COMPLEX

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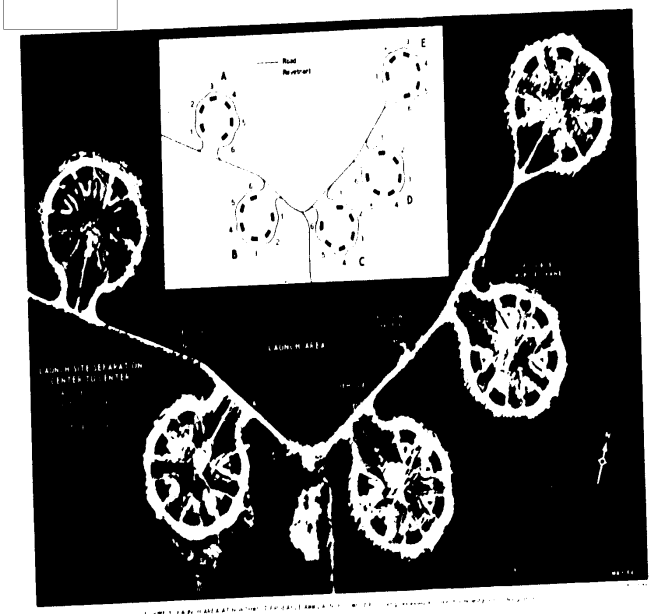

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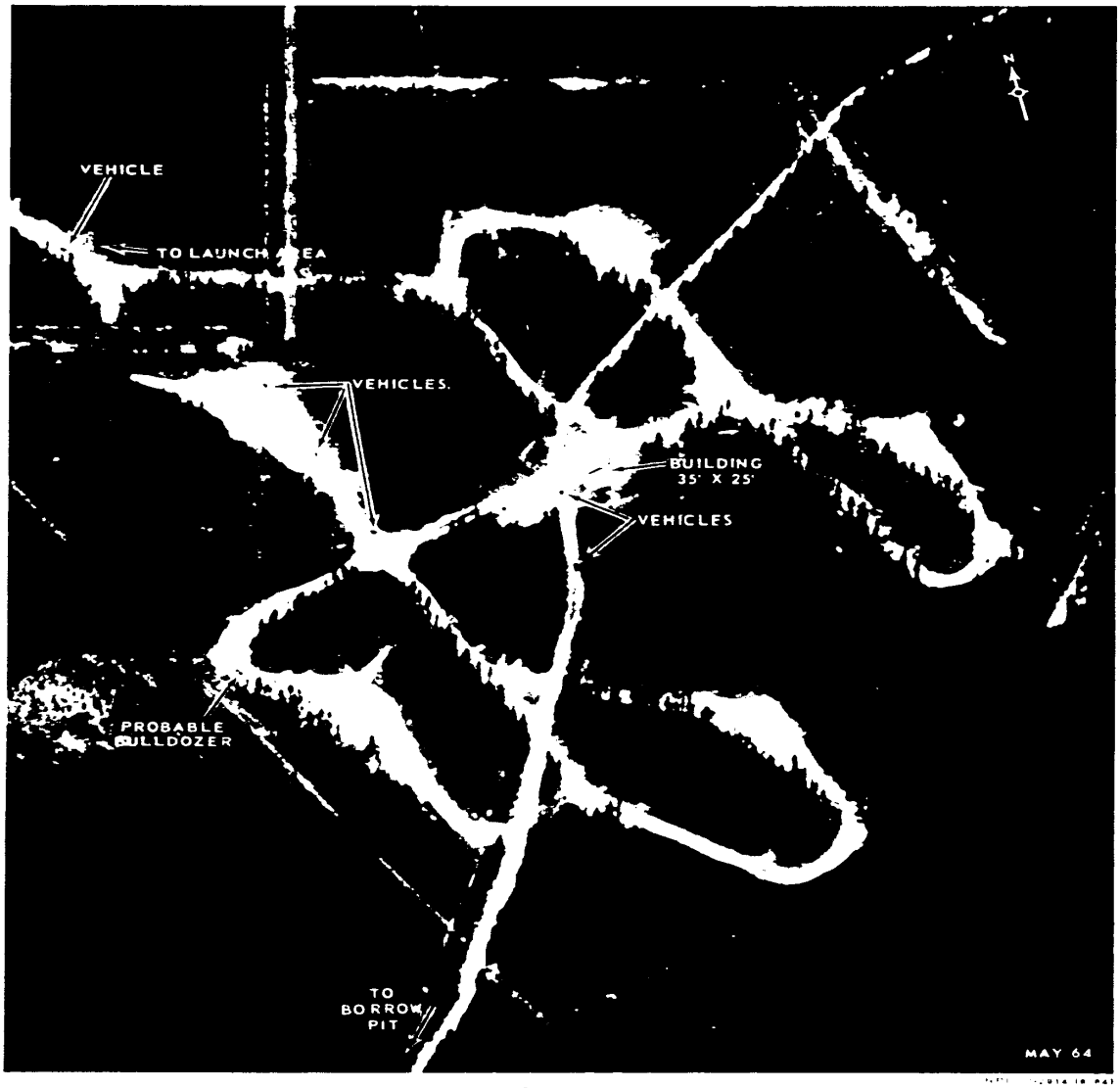

FIGURE 4. NEW UNIDENTIFIED FACILITY, UNDER CONSTRUCTION.

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the main road approaching the complex from the southeast. The facility consists of five earthen mounds equally spaced 770 feet apart, in a circular arrangement and served by a network of loop roads and ramps still under construction. A centrally located area of activity includes a probably flat-roofed building 35 by 25 feet, two areas of disturbed earth and a pile of material, indicating future expansion of the area. The mound crests are irregular in shape and measure approximately 100 by 50 feet. The surfaces of four of them appear relatively smooth, with piles of earth visible on one of them, while the fifth mound appears rougher in texture. A probable bulldozer was visible on one of the ramps and at least five additional vehicles, two in motion, were visible within the facility. Four additional vehicles were observed moving along the road between the Launch Area and the new facility.

The June photography reveals construction progress in the centrally located portion of the new facility. The surface of an area approximately 200 by 150 feet has been graded or excavated. Interpretation is limited by the smaller scale photography; however, road construction within the facility has progressed since May. The intended function of the new facility is undetermined at its present construction stage.

Descriptive terminology assigned to the components of the launch sites and the individual launch positions, for convenience in reporting, is indicated in Figures 5 and 6.

The May photography revealed new details pertaining to the composition and relative status of the launch sites (Table 1).

Two vehicles were observed moving along the access road to the Launch Area, one approaching from the direction of the Support Area, the other traveling along the road between Launch Sites A and B. A third vehicle was parked on the access road near the entrance to Launch Site C. A possible mobile crane was seen in the stereo pair of photographs as it moved to the perimeter road of Launch Site D from Launch position D2.

The launch site control buildings are earth mounded at Sites B and C but not at Sites A, D, and E. Cable conduit junction cylinders are visible at the centers of four of the sites. One is not discernible at Launch Site A, but possibly is present.

Conduits extending from the central junctions to the site control buildings are visible at Sites A, D, and E and are probably earth covered at Sites B and C.

The missile-ready buildings are essentially similar in outward appearance at all of the launch positions.

The near vertical photography of the Northwest Complex does not permit clear observation of openings in the missile-ready buildings. Because oblique KEYHOLE photography of March-April 1964 revealed five openings, indicating five bays in comparable buildings at the Southwest and Northeast Complexes, 1, 2, it can be assumed that those at the Northwest Complex are similar. Approximate dimensions of these openings obtained from the April photography of the Southwest Complex are: [redacted] (Note comment on mensuration on page 1.)

The outer and inner radials indicate the probability of a rail system serving the missile-ready building from the launch site perimeter road, and serving the launch point from the ready building. The inner radials are observed more clearly at some launch positions (for example Launch Position A5, Figure 5) than at others. The circular areas at the apex of the triangular revetted launch positions are referred to as launch points herein. The circular areas are approximately 30 feet in diameter and are in varying stages of completion as evidenced by disturbed earth at some of the locations, rough

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Table 1. Composition and Stages of Completion of Launch Sites, Based on May 1964 Photography

Launch Sites	Launch Point	Outer Radials	Inner Radials	Cable Conduits to Site Center	Remarks
Launch Site A					
Launch Position A1	P	P	P	P	
Launch Position A2	P	P	ND	P	
Launch Position A3	P	*4P	ND	P	1 barely discernible.
Launch Position A4	P	P	ND	P	
Launch Position A5	P	*P	P	P	Small unidentified object between radials.
Launch Position A6	I	P	P	P	
Launch Site B					
Launch Position B1	P	P	P	*ND	Probably buried.
Launch Position B2	P	*P	P	P	Unidentified features between radials.
Launch Position B3	P	*P	P	P	1 radial not clearly defined. Unidentified features in area.
Launch Position B4	P	*P	P	P	Unidentified features between radials.
Launch Position B5	P	*P	P	ND	Excavation adjacent to one radial.
Launch Position B6	P	*P	ND	ND	Unidentified object positioned on radial.
Launch Site C					
Launch Position C1	P	P	P	*ND	Probably buried.
Launch Position C2	P	P	P	P	
Launch Position C3	P	P	P	P	
Launch Position C4	P	P	P	P	
Launch Position C5	P	*P	ND	P	Piles of earth or aggregate near ends of radials.
Launch Position C6	P	*P	P	P	Unidentified features between radials
Launch Site D					
Launch Position D1	P	P	P	*ND	Probably buried.
Launch Position *D2	I	*P	P	P	Possible mobile crane in area. Unidentified features between radials.
Launch Position D3	I	P	P	P	
Launch Position D4	I	P	P	P	
Launch Position *D5	P	P	*ND	P	Small unidentified object between ready building and launch point.
Launch Position D6	I	P	ND	*ND	Probably buried.
Launch Site E					
Launch Position *E1	I	P	*ND	P	Small unidentified object between ready building and launch point.
Launch Position E2	P	P	P	P	
Launch Position E3	P	P	P	P	
Launch Position E4	P	P	P	P	
Launch Position E5	P	P	P	P	
Launch Position E6	I	*P	P	P	Unidentified features between radials.

Key to abbreviations: P-present; I-appears incomplete; ND-not discernible; *-See remarks.

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texture and gray tone of others, as contrasted with the apparently smooth surface and white tone of some of them.

The shoulders bordering the triangular portions of the launch positions are usually white in tone (those at A1, A5, and A6 are dark) and smooth surfaced. Some of them, however, have a disorganized appearance. The area adjacent to the perimeter road side of the missile-ready buildings at Launch Positions A1, A5, and A6 is also dark in tone (Figure 5).

An unidentified object [redacted] is positioned on one of the outer radials at Launch Position B6 (Figure 6).

Numerous features, unidentifiable as vehicles or equipment, and piles of earth or aggregate were located in the vicinity of the outer radials at many of the launch positions.

The revetments at all of the launch positions are complete. At each site there are two at Launch Position 1 and one at each of the other positions.

A change in the appearance of the dark-toned areas adjacent to the ready buildings at Launch Positions A1 and A6 was observed on the small-scale photography of June 1964. Portions of these areas appeared white in tone (Figure 13). No other significant changes or additions were observed in the Launch Area.

The May 1964 KEYHOLE photography provided excellent coverage of the Electronics Area (Figures 7, 8, 10). A May 1964 ground photograph (Figure 9) of one of the structures at the Northwest Complex is included to show additional details. No radar antennas have been identified at the Northwest Complex on current photography.

The Probable Complex Control Center (Figure 10) has a low pitched roof and in May approximately 50 percent of its surface was black in tone, indicating possible preparation for earth covering. A small amount of earth in an irregular pattern along the southwest side of the roof remained undisturbed since observed on photography of September 1963.

An earth removal operation was underway in the area adjacent to the southwest side of the Probable Control Center. At least nine vehicles, three of them in motion, were in the vicinity of this activity. A dirt road, new since September 1963, branches from an existing road southwest of the Center at a point near a break in the conduit and curves around to the west end of the Center. A vehicle was parked on this road.

The June photography revealed that additional earth has been removed from the area adjacent to the Center. The roof of the Center appears light in tone and is probably earth covered.

The Electronic Facilities northeast and southwest of the Probable Complex Control Center, and sometimes referred to as "outriggers," are comparable to those at the Leningrad Southwest Complex. 1/ Each structure consists of an elevated circular platform 150 feet in diameter approximately 70 feet above the ground. A girder-type framework supports the structures. A centrally located cylindrical structure extends from ground level to a height [redacted] above the platform. The top of this cylinder at Electronic Facility B (Figure 7) is closed just below the rim. A dark area visible on this cover may be an access way. There is a rectangular access way on the circular platform. The surface of the elevated platform at Electronic Facility A (Figure 8) is incomplete. The top of the cylindrical structure is open at this facility. Possible construction materials were scattered on the ground at the base of each facility. A probable radar position consisting of a low cylinder approximately 35 feet in diameter is located 300 feet north of the Control Center.

[redacted]

[redacted]

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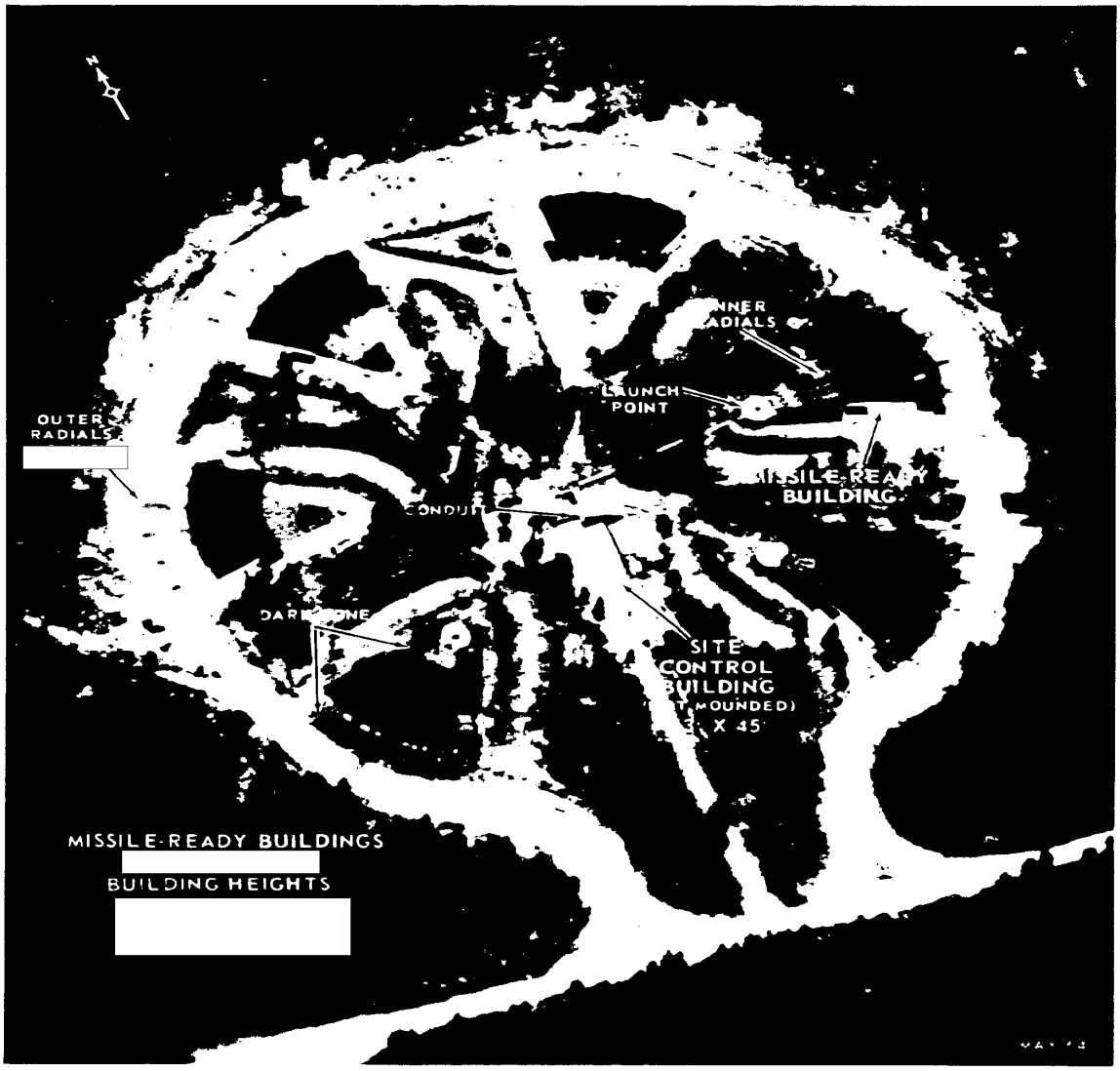

FIGURE 5. LAUNCH SITE A.

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FIGURE 6. LAUNCH SITE B.

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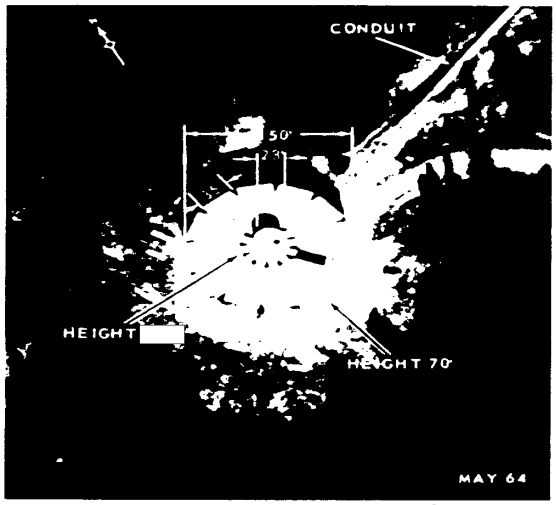

FIGURE 7. ELECTRONIC FACILITY B.

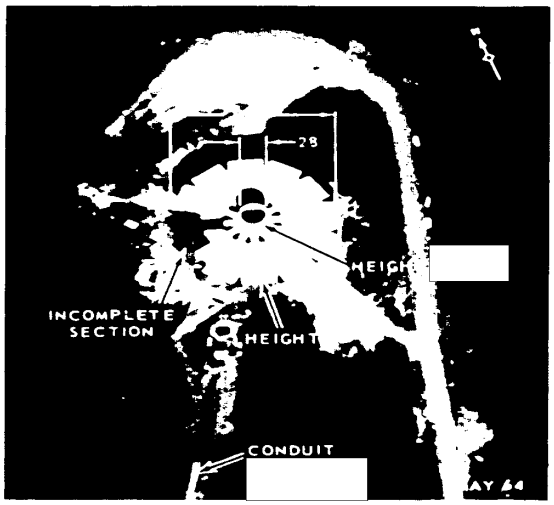

FIGURE 8. ELECTRONIC FACILITY A.

FIGURE 9. GROUND PHOTO OF STRUCTURE AT ELECTRONIC AREA.

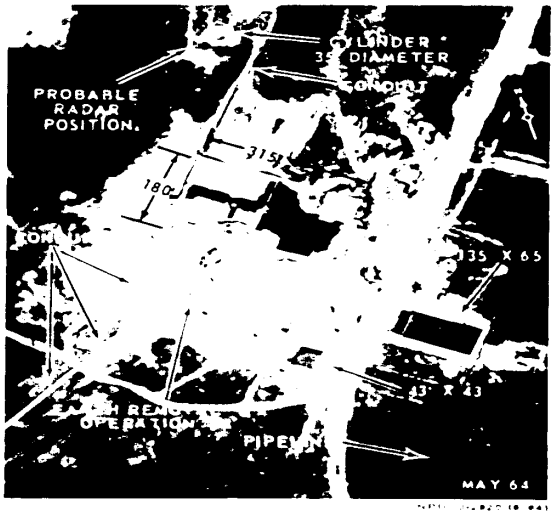

FIGURE 10. PROBABLE COMPLEX CONTROL CENTER.

[redacted]

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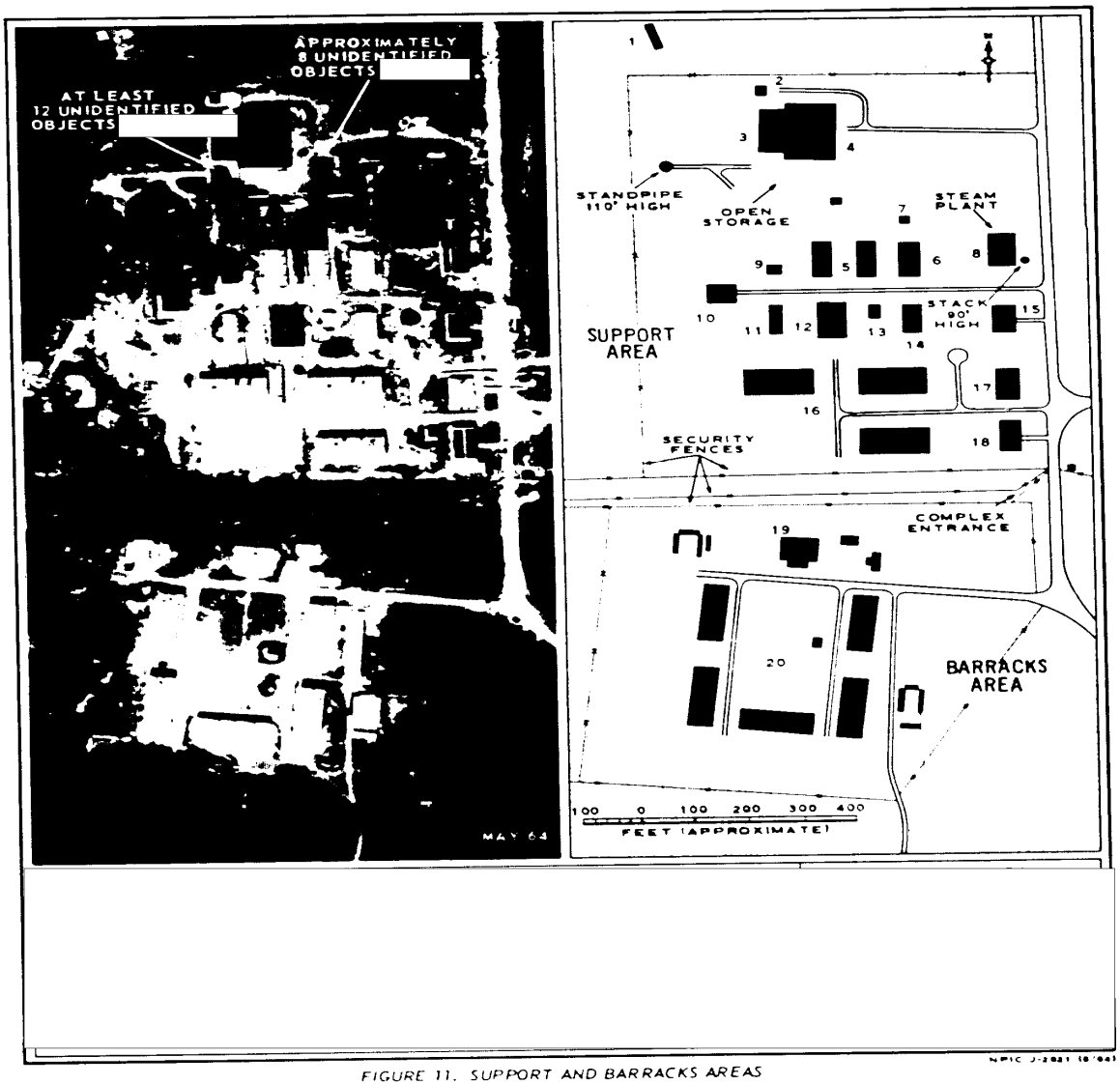

FIGURE 11. SUPPORT AND BARRACKS AREAS

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No change in the Electronic Facilities was discernible on the June photography.

The May photography revealed two groups of unidentified objects in open storage adjacent to the largest building in the Complex Support Area (Figure 11). These objects were dark in tone and their edges were obscure. One group of at least 12 objects [redacted] each and the other group contained approximately eight objects each of which [redacted]

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The group of approximately eight and several from the group of at least 12 had been removed when the area was observed on the June coverage.

A linear excavation (Figure 2), new since September 1963, was observed on the May 1964 photography. It extends from the Support Area and roughly parallels the Launch Area access road to the vicinity of Launch Site A.

A line drawing of the Support and Barracks Areas (Figure 11) is included to convey structure dimensions.

Two buildings were removed from the Construction Support Area (Figure 12), located just southeast of the Complex proper, between September 1963 and May 1964. Three had been re-

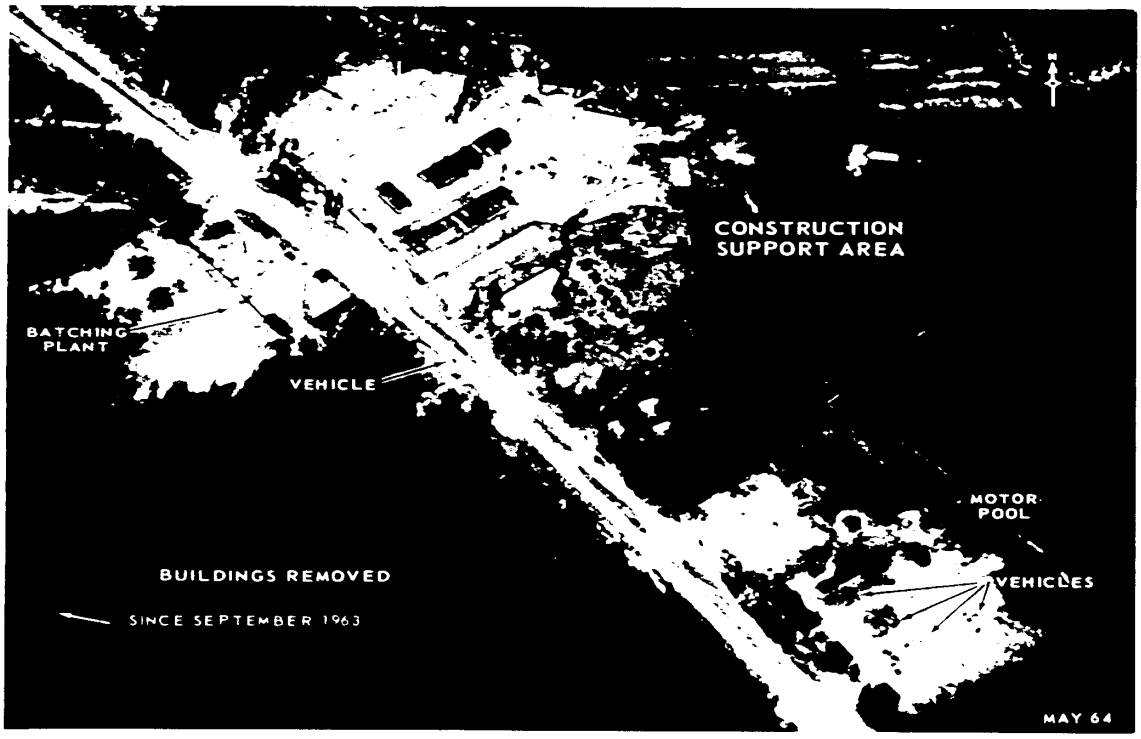

FIGURE 12. CONSTRUCTION SUPPORT AREA.

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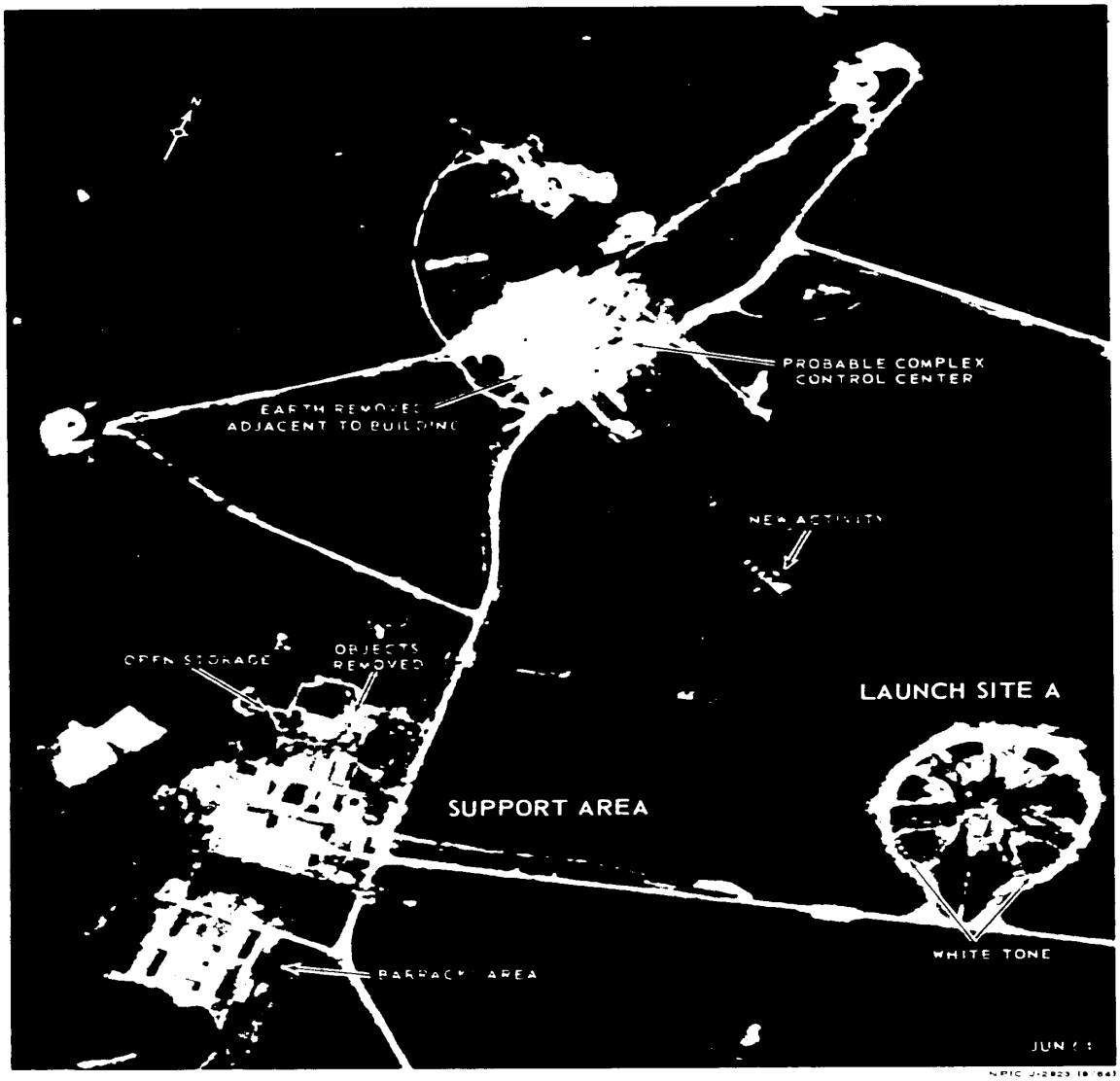

FIGURE 13. CHANGES AND ADDITIONS, NORTHWEST COMPLEX.

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moved from this area between July and September 1963. At least three buildings were removed from the comparable area at the Leningrad Southwest Probable AMM Launch Complex during this time period. 1/

At least 15 vehicles were parked in a motor pool (Figure 12) southeast of the Construction Support Area and another was parked on the road between the two areas.

The June photography revealed new activity (Figure 13) in a clearing between the Launch and Electronic Areas. Four light-toned structures each measuring 40 by 20 feet are aligned in a row.

The SA-3 SAM site (D34A) within the complex was occupied when observed on the May photography. Details were not discernible on the June coverage.

A borrow pit located along the approach road southeast of the complex was active and there were indications that traffic had existed on the roads leading from it to the new unidentified facility under construction. The borrow pit is not shown graphically in this report.

REFERENCES

Ground Photography

Agency	Reference No	Classification
DIA	USSR 1901017964-2901013664, Frame C2, May 64	CONFIDENTIAL

MAPS OR CHARTS

ACIC, US Air Target Chart, Series 200, Sheet [illegible], 3d ed, Jun 62, scale 1:200,000 (SECRET)

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REFERENCES (Continued)

REQUIREMENTS

CIA. C-RR4-81,455

CIA. C-RR4-81,570

NPIC PROJECT

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